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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/019,892 | 03/27/2002 | Kyosti Ranto | 442-010765-US(PAR) | 7832 |
| 2512 | 7590 | 02/16/2006 | EXAMINER | |
| PERMAN & GREEN 425 POST ROAD FAIRFIELD, CT 06824 | | | PRICE, NATHAN E | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2194 | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/019,892 | RANTO ET AL. | |
| | Examiner | Art Unit | |
| | Nathan Price | 2194 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 December 2001 and 05 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 December 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☒ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/28/2001.

- 4) ☐ International Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____


WILLIAM THOMSON
SUPERVISORY PATENT EXAMINER

DETAILED ACTION

1. Claims 1 – 20 are pending.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file. However, page 5 of the certified copy of the foreign patent documents is not present in the electronic file. At this time it is unclear if the missing page was lost or never received. Examiner would appreciate receiving another copy of the document in order to complete the record.

Drawings

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "50" has been used to designate both an Operating System (Figure 3) and a Wireless Protocol Stack (WPS, Figure 4). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

4. Claims 5 – 6 and 16 are objected to because of the following informalities: line 5 states “the bearer adapter” and line 6 states “each bearer adapter”. It is believed that Applicants’ intended to store identification information about **the** bearer adapter because there is only one bearer gate and adding information about all adapters would produce multiple copies of the same information in the same bearer gate. The claim has been treated as if it stores only identification about the bearer adapter for remainder of this Office Action. Claim 6 inherits this deficiency. Also, lines 8 – 9 state, “removing the particular bearer adapter from the bearer gate.” However, identification information about the bearer has been stored in the bearer gate. It is believed that Applicant intended to state that the identification information about the particular bearer adapter is removed from the bearer gate and has been treated as such for the remainder of this Office Action. Claim 6 inherits this deficiency and claim 16 is objected to for an equivalent problem. Appropriate correction is required.

5. Claims 14 and 16 are objected to because of the following informalities: it is believed that Applicant intended to include “and” at the end of line 3 of claim 14 and claim 16 is dependent on claim 14, so it is objected to for the same reason. These claims have been treated as if they include “and” for the remainder of this Office Action. Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. Regarding claim 10, the phrase "for example" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 101

9. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

10. Claim 20 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The computer program product is directed toward software. Even though line 4 states "computer readable program means," it is

not clearly embodied on a tangible computer readable medium so as to be executable by a machine.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 1 – 5, 7 – 8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Widegren et al. (US 6,374,112 B1) in view of Szabó et al. (US 6,567,425 B1).

13. As to claim 1, Widegren et al. substantially disclose a method of managing bearer services, each bearer service being used at a server for communication with a terminal over a particular wireless network (Fig. 1), the method comprising:

dynamically adding a bearer service to the server while the server is able to communicate with already existing bearer services (col. 3 lines 22 – 24).

14. Widegren et al. fail to specifically disclose the addition of bearer adapters. However, Szabó et al. disclose the use of multiple bearer services using a bearer adapter (col. 2 lines 48 – 51). It would have been obvious to one of ordinary skill in the

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art at the time of Applicant's invention to combine these references because Widegren et al. disclose the use of multiple bearer services, which would require compliance with an interface for each, and Szabó et al. disclose a bearer independent signaling protocol to allow a standard signal to be adapted so that it will be compliant with multiple bearer services.

15. As to claim 2, the method according to claim 1 is rejected for the reasons above. Continuing to use the modification of Widegren et al. to include bearer adapters, Widegren et al. also substantially disclose that the method further comprises:

dynamically deleting a bearer adapter from the server while the server is able to communicate with existing bearer adapters (col. 3 lines 22 – 24).

16. As to claim 3, the method according to claim 1 is rejected for the reasons above. Widegren et al. also substantially disclose the method further comprising:

creating a particular thread to which the added bearer adapter is assigned (col. 9 lines 33 – 37; and col. 12 line 65).

17. As to claim 4, the method according to claim 3 is rejected for the reasons above. Widegren et al. also substantially disclose the method further comprising:

creating said thread at a protocol stack in the server (col. 13 lines 43 – 52).

18. As to claim 5, the method according to claim 1 is rejected for the reasons above.

Widegren et al. also substantially disclose the method further comprising:

transferring data between a protocol stack and the bearer adapter via a bearer gate (col. 2 lines 61 – 64 and col. 13 lines 43 – 60), and

upon creating the bearer adapter storing identification information about the bearer adapter in the bearer gate (col. 9 lines 29 – 32)

19. Widegren et al. fail to specifically disclose that upon deleting the bearer adapter, the particular bearer adapter identification information is removed from the bearer gate.

However, Widegren et al. disclose that bearers may be released (col. 3 lines 22 – 24).

One of ordinary skill in the art at the time of Applicant's invention would have realized that it is important to be able to remove identification information of bearers, because if the bearer no longer exists as a result of being released, it would be problematic to maintain the identification information as if the bearer remained in existence.

20. As to claim 7, the method according to claim 1 is rejected for the reasons above.

Widegren et al. also substantially disclose that the method further comprises:

controlling the operation of bearer adapters with a user interface (col. 6 lines 1 – 6).

21. As to claim 8, the method according to claim 7 is rejected for the reasons above.

Widegren et al. also substantially disclose that the controlling comprises adding,

removing, starting, stopping, configuring (col. 6 lines 30 – 33) and monitoring (col. 4 lines 25 – 34) the operation of bearer adapters. It is necessary to be able to start and stop in order to provide control and management tasks.

22. As to claim 10, the method according to claim 1 is rejected for the reasons above. Widegren et al. also substantially disclose that the terminals comprise mobile terminals (Figure 1).

23. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Widegren et al. and Szabó et al. as applied to claim 5 above, and further in view of Anderson et al. (Anderson et al. "Scheduler Activations: Effective Kernel Support for the User-Level Management of Parallelism." ACM Transactions on Computer Systems, Vol. 10, No. 1, February 1992, Pages 53 – 79).

24. As to claim 6, Widegren et al. fail to specifically disclose upon deletion of the bearer adapter, keeping the particular thread assigned to it until the operation of the server is stopped next time. However, Anderson et al. substantially disclose keeping and reusing threads in order to reduce overhead (page 69 ¶ 4). It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to apply the disclosure of Anderson et al. to that of Widegren et al. because establishing and releasing bearer services requires the allocation and release of resources, which creates overhead. One of ordinary skill in the art would realize that the reuse of

allocated resources for scheduler activations and kernel threads is similar to reuse of bearer service threads and applying this reference would reduce overhead for this application of threads.

25. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Widegren et al. and Szabó et al. as applied to claim 7 above, and further in view of Chari (US 6,151,023).

26. As to claim 9, Widegren et al. fail to specifically disclose controlling the operation of bearer adapters with a graphical window based user interface. However, Chari substantially discloses the use of a graphical window based user interface (col. 6 lines 51 – 67). It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to combine these references because Widegren et al. disclose monitoring and controlling bearer services in a network using an interface and Chari discloses the monitoring and controlling of a network.

27. Claims 11, 13 – 16 and 18 – 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Widegren et al. in view of Szabó et al.

28. As to claim 11, Widegren et al. substantially disclose a server for managing bearer adapters, each bearer adapter being used at a server for communication with a terminal over a particular wireless network (col. 9 lines 33 – 40), the server comprising:

means for dynamically adding a bearer adapter to the server while the server is able to communicate with already existing bearer adapters (col. 6 lines 30 – 33; Bearer Gate: col. 6 lines 20 – 21; User Interface: col. 6 lines 1 – 6; Receiving Thread: col. 3 lines 55 – 57 and col. 9 lines 33 – 37; User Interface: col. 6 lines 1 – 6).

29. Widegren et al. fail to specifically disclose the addition of bearer adapters. However, Szabó et al. disclose the use of multiple bearer services using a bearer adapter (col. 2 lines 48 – 51). It would have been obvious to combine these references because Widegren et al. disclose the use of multiple bearer services, which would require compliance with an interface for each, and Szabó et al. disclose a bearer independent signaling protocol to allow a standard signal to be adapted so that it will be compliant with multiple bearer services.

30. As to claim 13, the server according to claim 11 is rejected for the reasons above. Widegren et al. also substantially disclose that the server further comprises:

creating means for creating a thread in response to adding a bearer adapter (col. 9 lines 33 – 37; and col. 12 line 65), and

assigning means for assigning the created thread to the added bearer adapter (col. 9 lines 33 – 37; col. 12 line 65; Wireless Protocol Stack: col. 2 lines 61 – 64 and col. 13 lines 43 – 60; Bearer Gate: col. 13 lines 53 – 60; Thread: col. 9 lines 33 – 37; col. 12 line 65; Bearer Adapter: col. 2 lines 61 – 67). Although Widegren et al. do not

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specifically disclose creation and assignment of threads, it is implied by the multiple parallel bearer services.

31. As to claim 14, the server according to claim 11 is rejected for the reasons above. Widegren et al. also substantially disclose that the server further comprises:

a wireless protocol stack for implementing a wireless protocol and for transferring data between the protocol stack and a bearer adapter (Figure 1 and col. 13 lines 43 – 60); and

a bearer gate for isolating the wireless protocol stack from the bearer adapter and for storing information on each bearer adapter (Figure 1; col. 13 lines 43 – 60; and col. 9 lines 29 – 32). Although Widegren et al. do not specifically disclose a wireless protocol stack, it is implied by having wireless capabilities and the stack.

32. As to claim 15, the server according to claim 11 is rejected for the reasons above. Widegren et al. also substantially disclose that the server further comprises:

removing means for dynamically removing a bearer adapter from the server while the server is able to communicate with still existing bearer adapters (col. 3 lines 23 – 24; User Interface: col. 6 lines 1 – 6; Bearer Gate: col. 6 lines 20 – 21; Bearer Manager: col. 6 lines 1 – 6).

33. As to claim 16, the server according to claim 14 is rejected for the reasons above. Widegren et al. also substantially discloses that:

the removing means have been arranged to remove the bearer adapter from the bearer gate (col. 3 lines 22 – 24); and

the bearer gate has been arranged to stop communication to the removed adapter (col. 3 lines 22 – 24).

34. As to claim 18, the server according to claim 11 is rejected for the reasons above. Widegren et al. also substantially disclose that the server comprises a gateway server serving a plurality of mobile terminals (Figure 1).

35. As to claim 19, the server according to claim 18 is rejected for the reasons above. Although Widegren et al. fail to specify a WAP gateway, Figure 1 displays a wireless network. It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to use a WAP gateway because WAP is a widely used standard and would avoid the need to start from scratch to develop a new wireless design.

36. Claim 20 is a computer program product corresponding to claim 11 and is therefore rejected for the same reasons as claim 11.

37. Claims 12 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Widegren et al. in view of Szabó et al. as applied to claim 11 above, and further in view of Chari et al.

38. As to claim 12, the server according to claim 11 is rejected for the reasons above. Widegren et al. fail to specifically disclose a means (user interface, keyboard and display) for allowing an administrator of the server to dynamically add a bearer adapter while the server is able to communicate with already existing bearer adapters. However, Chari substantially discloses the use of a user interface, keyboard and display to control operational parameters (col. 16 lines 55 – 59). It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to combine these references because Widegren et al. disclose monitoring and controlling bearer services in a network using an interface and Chari discloses the monitoring and controlling of a network.

39. As to claim 17, see the rejection of claim 9.

Conclusion

40. The prior art made of record on the P.T.O. 892 that has not been relied upon is considered pertinent to applicant's disclosure. Careful consideration of the cited art is required prior to responding to this Office Action, see 37 C.F.R. 1.111(c).


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41. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan Price whose telephone number is (571) 272-4196. The examiner can normally be reached on 7:30am - 4:00pm, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Thomson can be reached on (571) 272-3718. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nathan Price


WILLIAM THOMSON
SUPERVISORY PATENT EXAMINER